Synergies between future Landsat and European satellite missions for better understanding coupled human-environment systems

Patrick Hostert
Tobias Kuemmerle
Dirk Pflugmacher

Warren Cohen (USDA-FS), Patrick Griffiths (HU Berlin), Hermann Kaufmann (GFZ Potsdam, Germany), Robert Kennedy (Boston U), Pedro Leitão (HU Berlin), Volker Radeloff (U Madison), Achim Röder (U Trier, Germany), Ruth Sonnenschein (EURAC, Bolzano, Italy), Thomas Udelhoven (U Trier, Germany), Sebastian van der Linden (HU Berlin), Björn Waske (U Bonn, Germany)

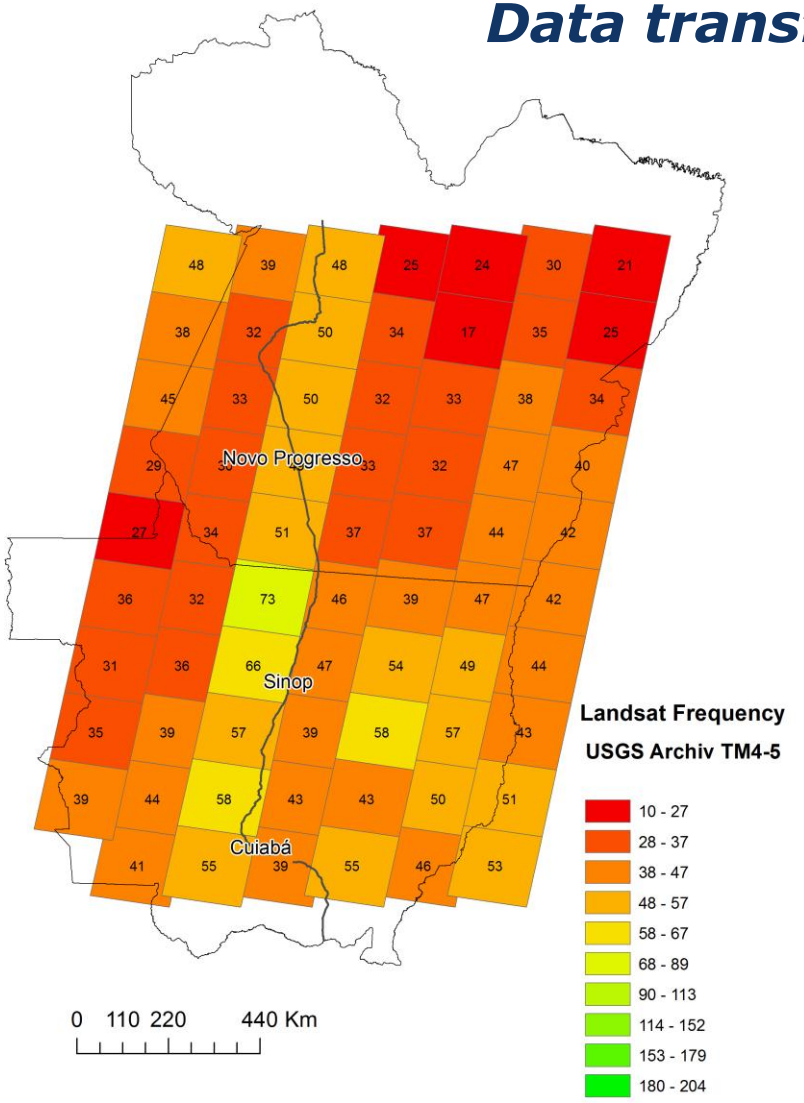
Overall goals

- Exploring dense and long **time series**
- Creating Landsat-based products across **large areas**
- Integrating **Landsat** with future **Sentinel-2 and EnMAP** data
- Central and Eastern Europe, SE-Asia, S-America

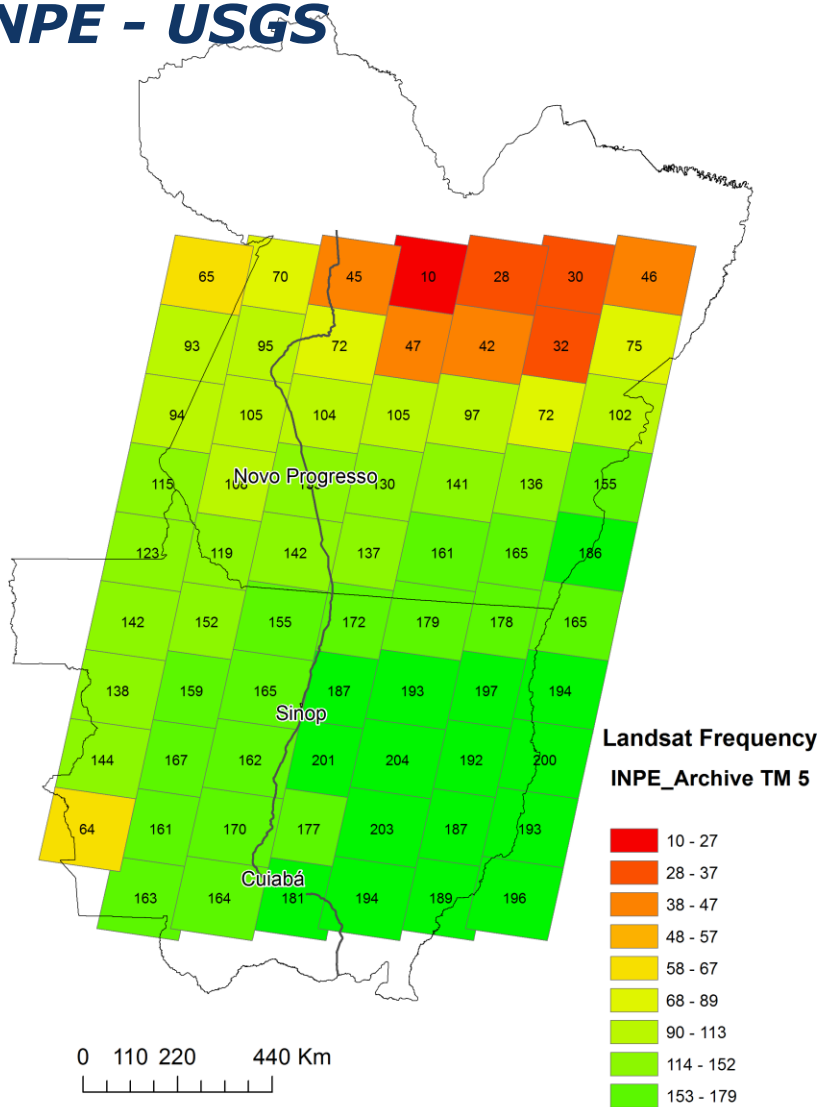
December 2012 – February 2013

- Testing Landsat-based time series analysis with yearly data and based on the full archive depth (since TM)
- Focus on the Carpathian Mountains of Eastern Europe: LULCC mapping and development of LU intensity metrics
- Focus on SE-Asia: improved forest degradation mapping for REDD+
- Focus on Brazil: understanding pasture/cropping dynamics in Amazonia and their implications for carbon fluxes

Data transfer INPE - USGS



USGS



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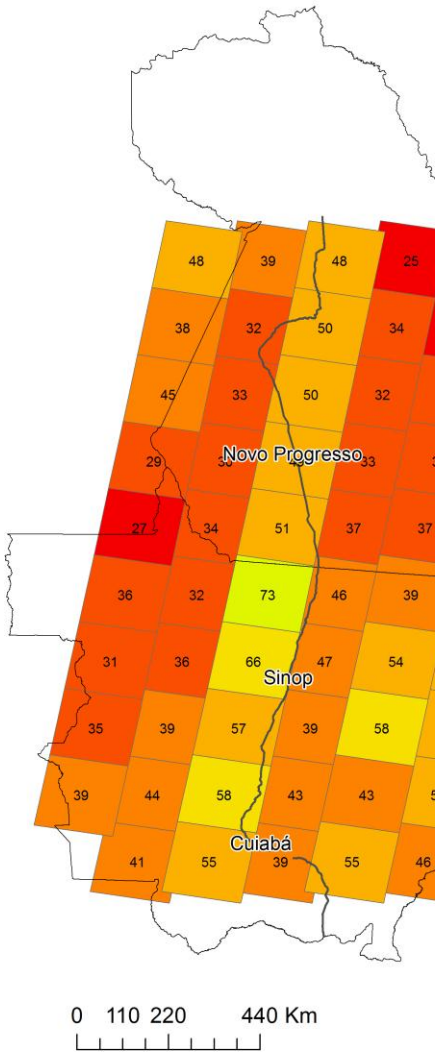

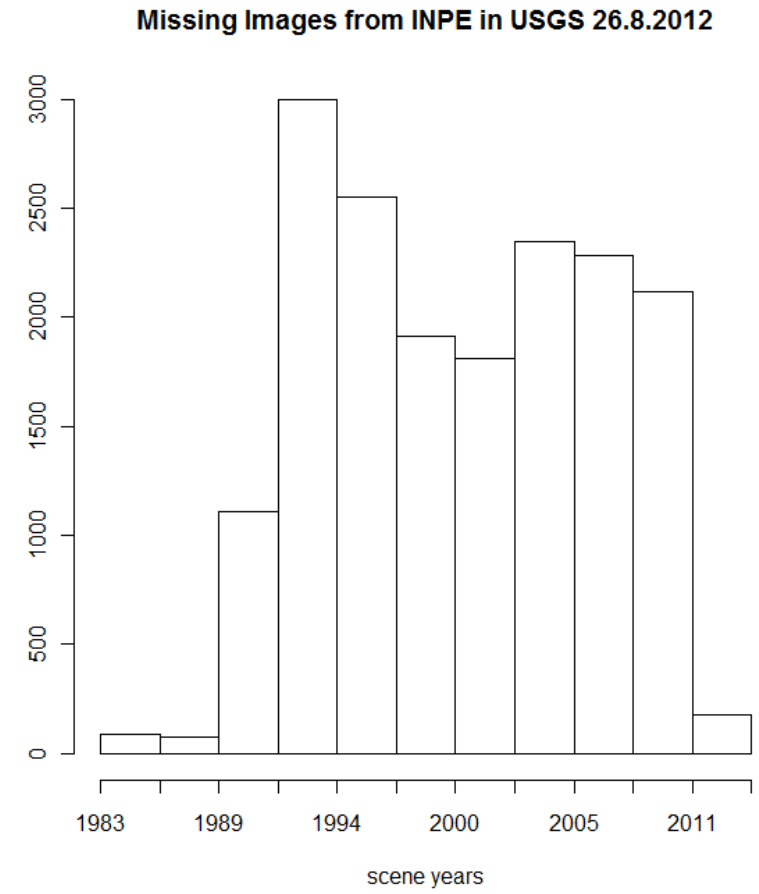

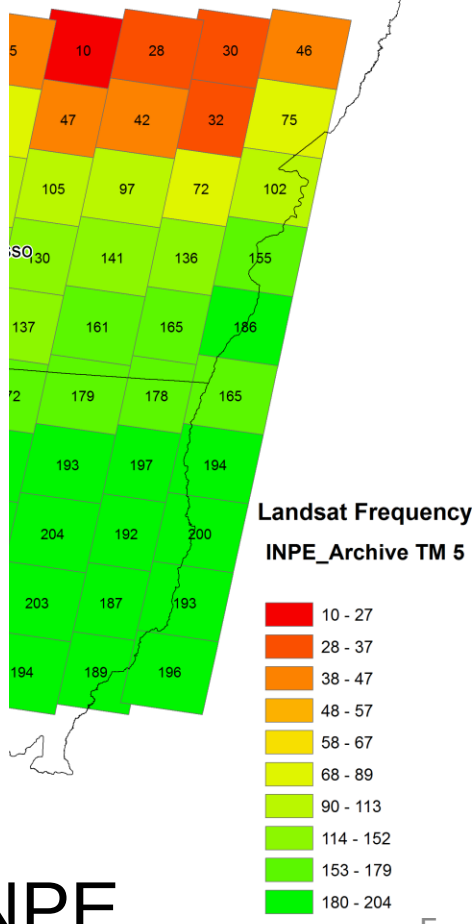

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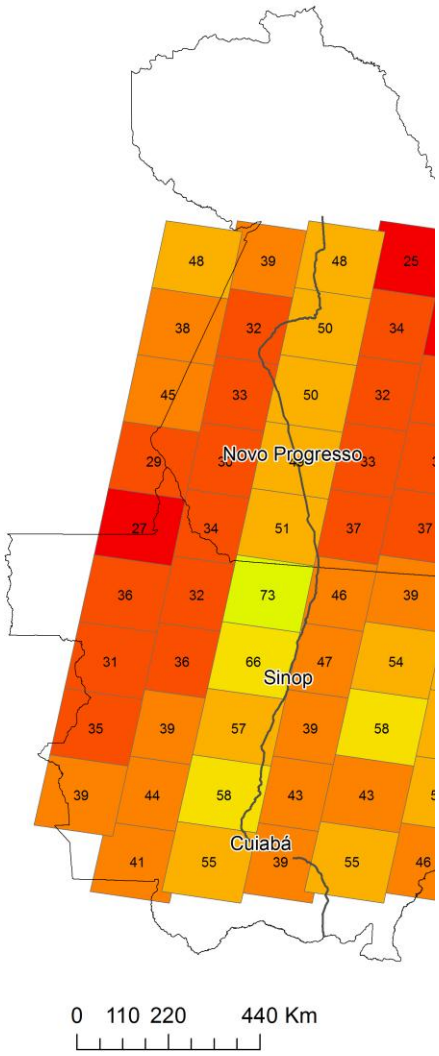

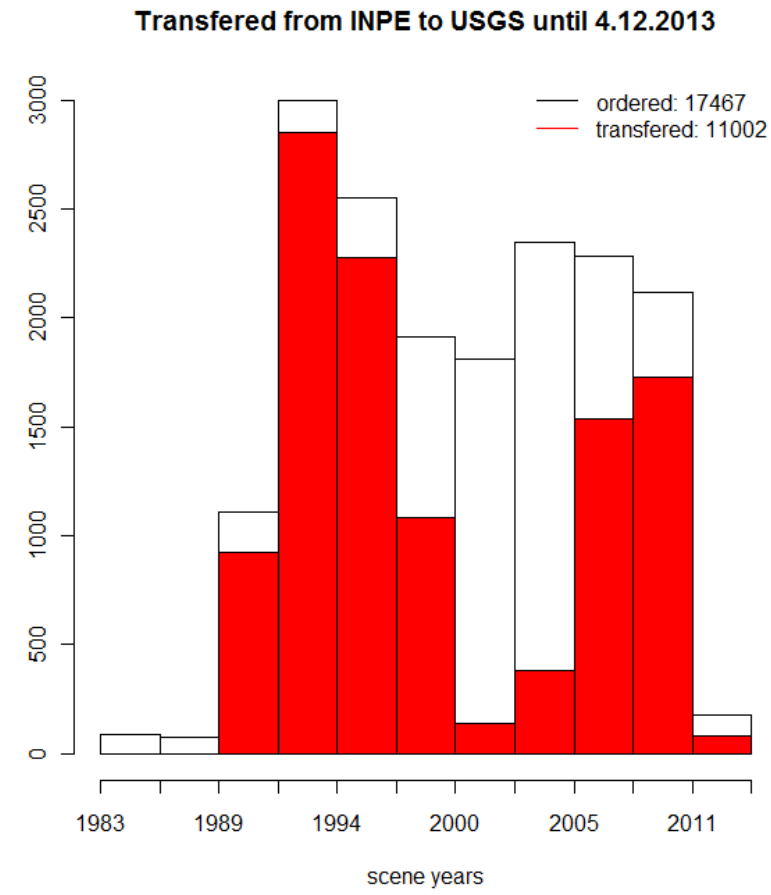

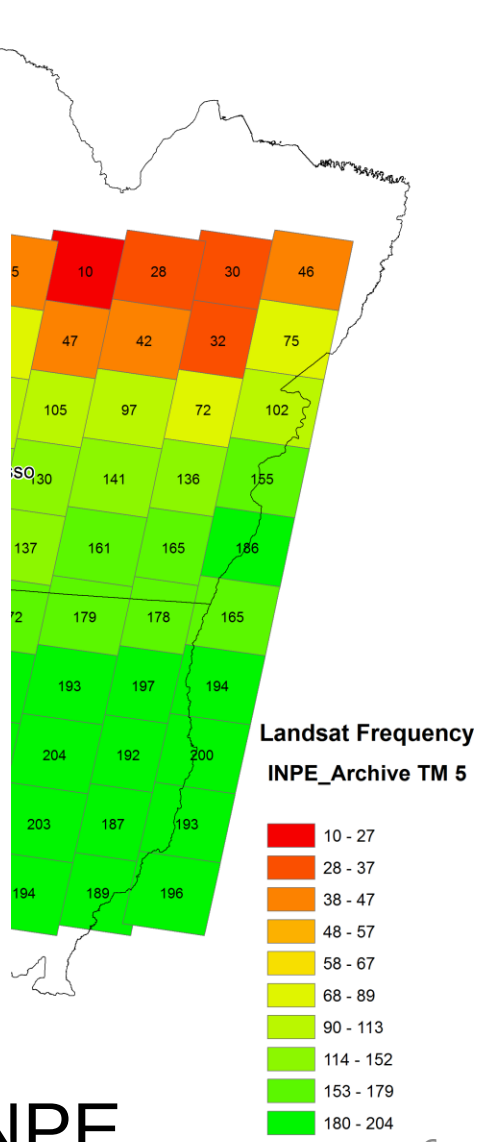

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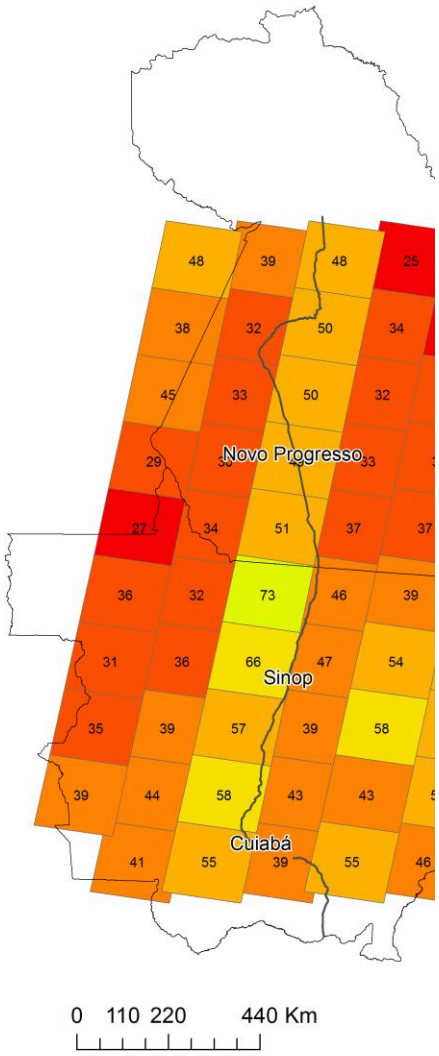
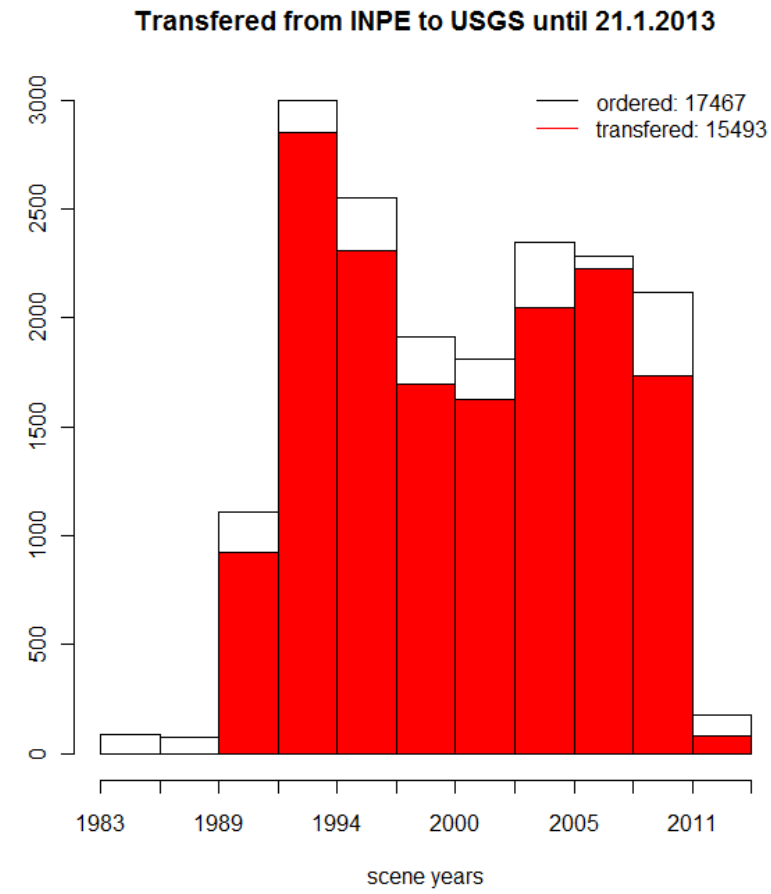
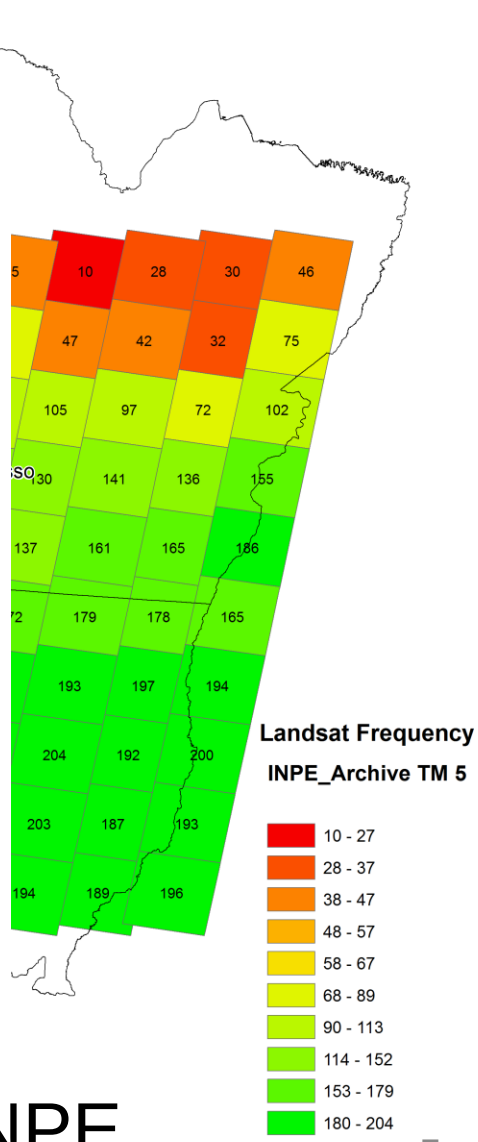




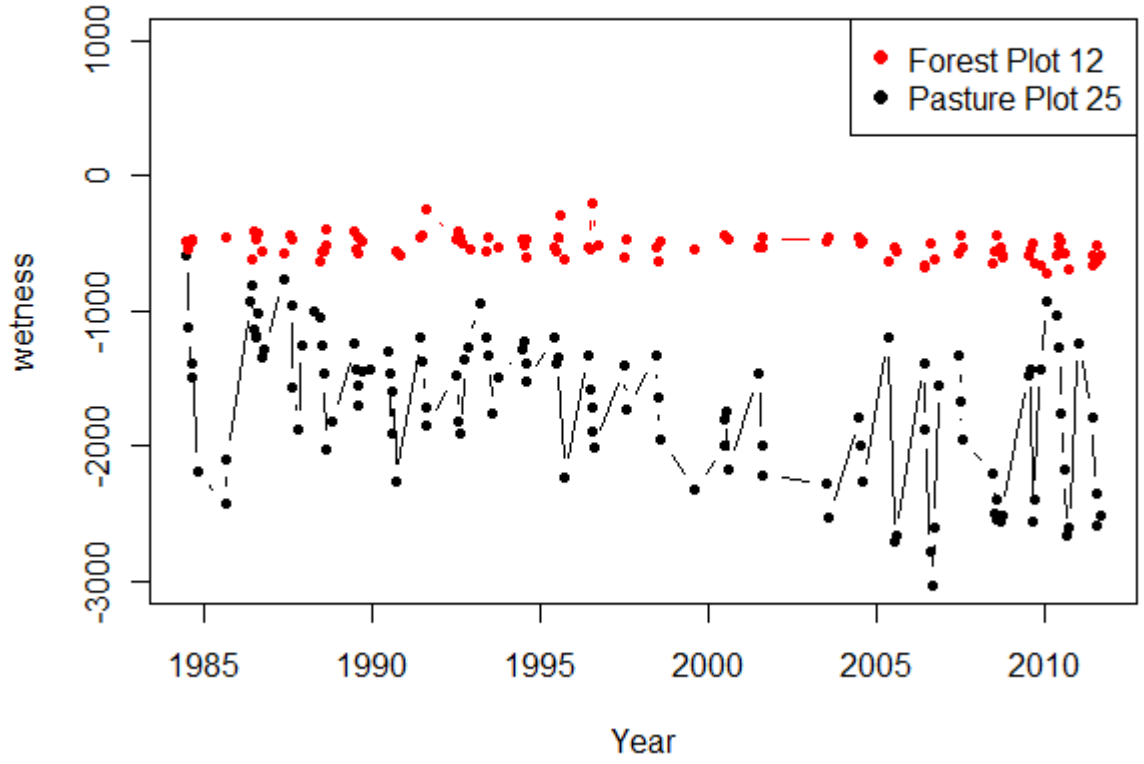


USGS

INPE

Understanding pasture dynamics from deep time series

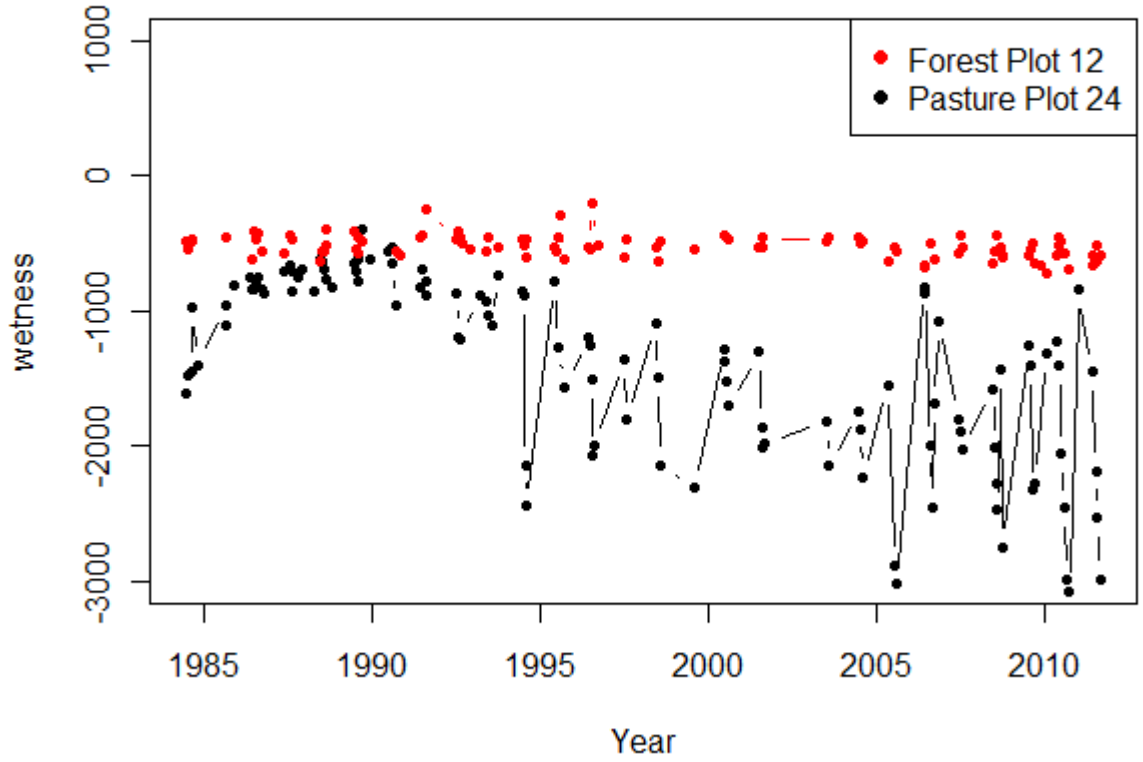
150 Images Stack – Single Pixel Profiles



Intensive Pasture

Understanding pasture dynamics from deep time series

150 Images Stack – Single Pixel Profiles



Intensified Pasture

Understanding pasture dynamics from deep time series

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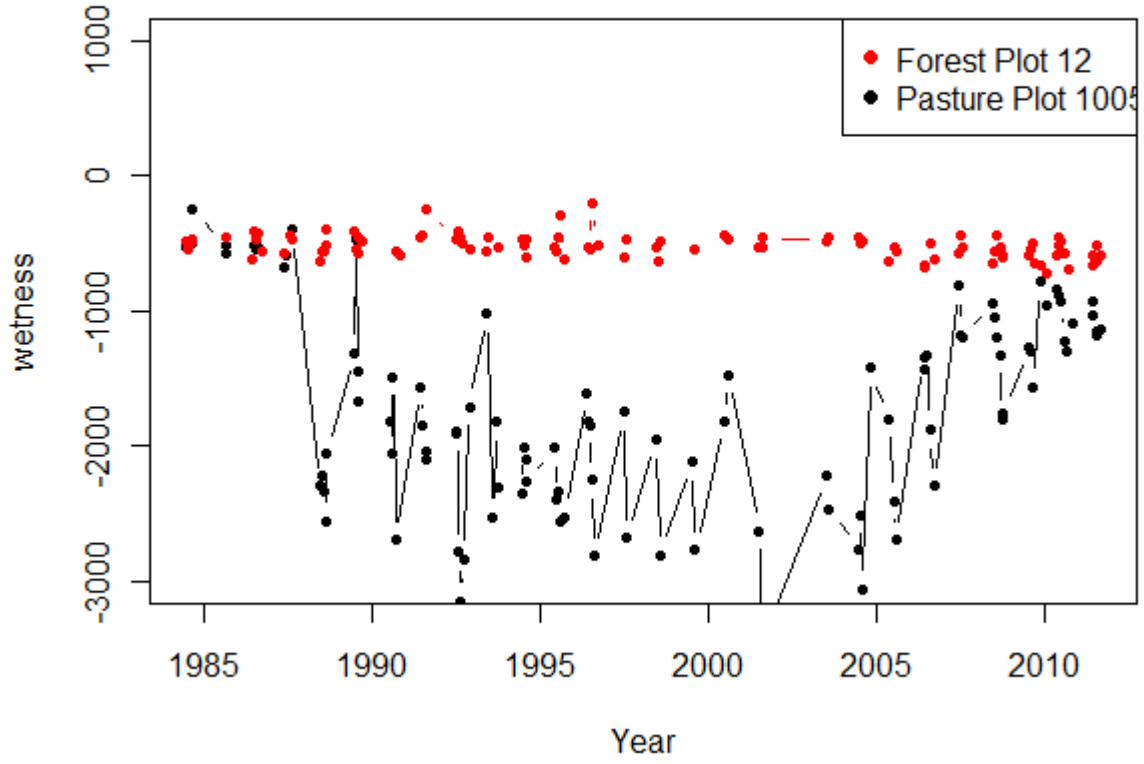

Extensified Pasture

Arising questions, remaining problems

- How error-prone are some of the "traditional" analysis results in highly dynamic environments?
- How reliable are business-as-usual scenarios / baselines e.g. for REDD+ based on "snapshots"?
- What does that mean for quantifying "additionality" estimates?

- We need better haze and smoke flagging in the wet tropics.
- Deriving reliable and transferable metrics from deep time series in highly dynamic environments is challenging.